

Sartocool® PS

0.45 µm

Membrane Filter Cartridges for the Sterile Filtration of Beverage

Product Information

- High filtration performance
- Excellent throughputs
- Chemical et Mechanical Stability
- Microbial stability

Applications

The Sartocool® PS filter cartridge has been specially designed for the sterile filtration of food liquids. We have focused on ensuring microbiological stability with low operating costs to meet the requirements of the food industry. Sartocool® cartridges are used for final filtration before bottling for drinks such as:

- Wine
- Sparkling wine
- Bottled water
- Beer



Benefits and features of Sartocool® PS

High Filtration Performance

The extremely large pore volume and density are the decisive reasons for the excellent flow rates of Sartocool® PS. Both the filter area and the pleat geometry are designed for high performance. This has the practical advantage that filter systems can be sized considerably smaller. In part, the number of cartridges installed in existing systems can be greatly reduced, which saves filtration costs. The flow rate of Sartocool® PS is higher than that for all other membrane cartridges used for this purpose (0.45 µm–0.8 µm).

Excellent Throughputs

Filterability of beer is the decisive factor determining the throughput of the cartridges. Nevertheless, the optimized membrane geometry of Sartocool® PS minimizes the build-up of β-glucans, and thus gelation, ensuring excellent throughput. Up to now, cleaning processes using conventional caustic soda, which is available in every brewery, achieved outstanding results. The high throughput of Sartocool® PS filter cartridges, when used under optimum conditions, will result in filtration costs that are equal to those of flash pasteurization.

Stability

Since the Sartocool® PS membrane is made of polyethersulfone, these filter cartridges are chemically resistant within the pH range of 1-14. This means that the cartridges can be regenerated using caustic soda| acids. In practice, Sartocool® PS has undergone 100 cleaning cycles successfully. Moreover, the properties of Sartocool® PS are not affected by sterilization procedures using hot water or steam. The cartridges also feature excellent stability when subjected to mechanical stress. Sartocool® PS filter cartridges are installed upstream of the bottling machine or keg filler, which necessitates a rugged design. Sartocool® PS meets all these design requirements. As a result, Sartocool® PS cartridge filters can withstand thousands of pressure surges of up to 5 bar (~72 psi).

Microbiological Stability

Sartocool® PS is often connected downstream of the sheet filter to ensure the beer's shelf life. Sartocool® PS offers the highest assurance against beer spoilage microbes, which has been validated by a bacteria challenge test using *Lactobacillus lindneri*. The retention rate is at least 10⁷ bacteria/cm².

Technical Data

Materials

Membrane	Polyethersulfone
Drainage gauze	Polypropylene
Core and supports	Polypropylene
End Caps	Polypropylene
O-Rings	Silicone

Pore Sizes

0.45 µm

Available Sizes | Filtration Area

Size 1	10"	0.79 m ² 8.5 ft ²
Size 2	20"	1.58 m ² 17.0 ft ²
Size 3	30"	2.37 m ² 25.5 ft ²
Size 4	40"	3.16 m ² 34.0 ft ²

Available Adapters

25, 27, 28

Operating Parameters

Max. Allowable	5 bar 72.5 psi at 20°C
Differential Pressure	2 bar 29 psi at 80°C
Max. Allowable Back Pressure	2 bar 29 psi at 20°C

Sterilization

Autoclaving

134°C, 2 bar (29 psi); 30 min.

Steam sterilization

110 – 121°C, 0.5 – 1 bar [~7psi – ~14psi]
20 min.

Hot water sterilisation

85 – 95°C, maximum ΔP 0,5 bar

Sterilization cycles with steam or hot water

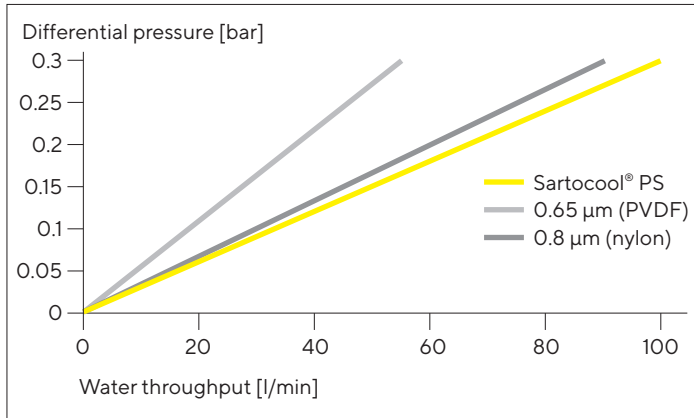
at least 100 cycles

All the raw materials used to produce the Sartocool® PS cartridge comply with the European Union Regulation (EC) No. 1935/2004 as well as the Regulation (EU) No. 10/2011 concerning plastic materials and articles intended to come into contact with foodstuffs.

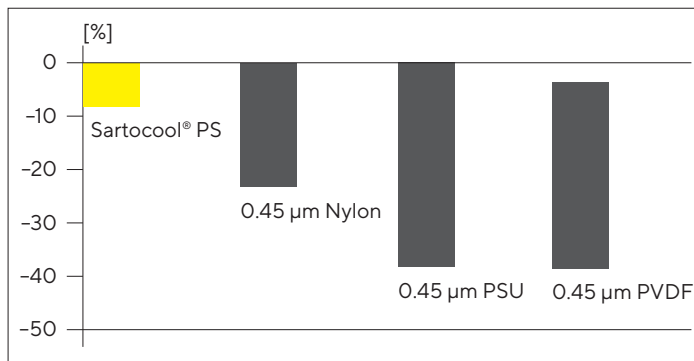
These guidelines for plastics allow the use in food and beverage applications.

All materials used meet the requirements of the FDA.

Sartocool® PS Water Flow Rates (l/min) for Cartridges at 20°C



Stability: Reduction in Flow Rate after 20 Steam-Sterilization Cycles, 134°C, 30 min



Ordering Information

Order Number	Pore Size (µm)	Pack size [pieces]	Height	Test Pressure (bar psi)	Max. Allowable Diffusion Rate (ml/min)
530**06A1	0.45	1	10" (250 mm)	1.2 17.4	15
530**06A2	0.45	1	20" (500 mm)	1.2 17.4	30
530**06A3	0.45	1	30" (750 mm)	1.2 17.4	45
530**06A4	0.45	1	40" (1,000 mm)	1.2 17.4	60


** : Adapter Type

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